AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1 to 9: (Canceled).

10. (Currently Amended) A method for producing a thermal barrier coating for a component of an internal-combustion engine, the component being exposed to hot gases, the thermal barrier coating having a columnar structure, comprising the steps of:

providing acetylacetonates of zirconium and at least one stabilizing element selected from the group consisting of alkaline earth metals and rare earths as starting substances;

vaporizing the starting substances by heating to at most 250°C so as to form coating gases;

transporting the coating gases in an admission system that has been heated to at most 250°C to the component; and

depositing the thermal barrier coating having a layer thickness between 25 µm and 1000 µm by heating a surface of the component to be ~~coating~~ coated at a deposition temperature between 300°C and 1100°C at a process pressure of between 0.5 mbar and 50 mbar so that the coating gases are broken down.

11. (Previously Presented) The method according to claim 10, wherein the surface of the component to be coated is heated in the depositing step at a deposition temperature of between 800°C and 1100°C.

12. (Previously Presented) The method according to claim 10, wherein the stabilizing element includes one of yttrium, lanthanum, calcium, magnesium and cerium.

13. (Previously Presented) The method according to claim 10, further comprising the step of mixing the coating gases with a carrier gas.

14. (Previously Presented) The method according to claim 13, wherein the carrier gas includes one of oxygen and a mixture of oxygen and argon.

15. (Previously Presented) The method according to claim 13, wherein the coating gases and the carrier gas are transported to the component to be coated in the admission system.

16. (Previously Presented) The method according to claim 10, wherein the starting substances are provided in the providing step in powder form.

17. (Previously Presented) The method according to claim 10, wherein zirconia partially stabilized with 7% to 9% by weight of yttria is deposited in the depositing step.

18. (Previously Presented) The method according to claim 10, wherein the thermal barrier coating is deposited in the depositing step on the component in a layer thickness of between 75 µm and 250 µm.

19. (New) A method for producing a thermal barrier coating for a component of an internal-combustion engine, the component being exposed to hot gases, the thermal barrier coating having a columnar structure, comprising the steps of:

providing a starting substance including acetylacetonates of zirconium and at least one stabilizing element;

vaporizing the starting substances by heating to at most 250°C so as to form coating gases;

transporting the coating gases to the component in an admission system that has been heated to at most 250°C; and

depositing the thermal barrier coating having a layer thickness between 25 µm and 1000 µm by heating a surface of the component to be coated at a deposition temperature between 300°C and 1100°C at a process pressure of between 0.5 mbar and 50 mbar so that the coating gases are broken down,

wherein the at least one stabilizing element is selected from the group consisting of beryllium, magnesium, calcium, strontium, barium, radium, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium,

dysprosium, holmium, erbium, thulium, ytterbium, lutetium, actinium, thorium, protactinium, uranium, neptunium, plutonium, americium, curium, berkelium californium, einsteinium, fermium, mendelevium, nobelium, and lawrencium.

20. (New) A method for producing a thermal barrier coating for a component of an internal-combustion engine, the thermal barrier coating having a columnar structure, comprising the steps of:

providing acetylacetonates of zirconium and at least one stabilizing element selected from the group consisting of alkaline earth metals and rare earths as starting substances;

vaporizing the starting substances by heating to at most 250°C so as to form coating gases;

heating a component to be coated to a deposition temperature between 300°C and 1100°C; and

exposing the heated component to be coated to the vaporized starting substances at a process pressure of between 0.5 mbar and 50 mbar so as to form a thermal barrier coating on said component, the starting substances at least one of breaking down and burning upon contact with the heated component.

21. (New) The method as claimed in claim 20, wherein the coating formed is between 25 µm and 1000 µm thick.